PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

FLOSBACH ET AL. CASE NO: FA1224 US NA

SERIAL NO: 10/782,098 GROUP ART UNIT: 1711

FILED: FEBRUARY 19, 2004 EXAMINER: RABON A. SERGENT

FOR: PROCESS FOR PRODUCTION OF POLYURETHANE DI(METH)ACRYLATES

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Carmen Flosbach, declare that:

I am a citizen of the Federal Republic of Germany and reside at Marpe 41 D-42287, Wuppertal, Germany.

I am an employee of E.I. du Pont de Nemours and Company ("DuPont").

I received a Ph.D. in organic heterocyclic chemistry from the University of Wuppertal, FRG. I have worked for DuPont from 1990 to the present in the field of resin development.

I am a technical expert in the field of paint coatings, and I am familiar with the above-referenced patent application, as well as the references cited therein.

The following are my remarks:

1. The May 31, 2006, Final Office Action indicated that claims 1, 4, 7, and 10 were rejected under 35 U.S.C. § 103(a) as being obvious over WO 01/25359. Therein, the Examiner asserted that the 132 Declaration submitted along with the Response to the December 19, 2005, Non-Final Office action was "deficient, because the examples of the declaration are not commensurate in scope with the claims."

2. I submit additional evidence of unexpected results of coatings made from the compositions of the invention.

3. The experiments described herein were conducted under my direction as follows:

Acid and scratch resistance of powder coatings were determined, wherein the powder coatings contained the diols of Examples 1, 5, 6, and 11 of the present application with the hydroxy-C2-C4-alkyl (meth)acrylate component changed from hydroxyethylacrylate to hydroxypropylacrylate in Examples 1, 5, and 6 and from hydroxypropylacrylate to hydroxyethylacrylate in Example 11. The respective powder clear coats were sprayed, in a layer thickness of 80 µm in each case, onto steel sheets coated with commercially available electro-deposition paint, filler, and base coat (flashed off) and melted for 10 min at 140 °C (oven temperature). The coating was cured by ultra-violet radiation corresponding to a radiation intensity of 500 mW/cm^2 and a radiation dose of 800 mJ/cm^2.

(i) Acid Resistance Test

50 µl of 36% sulfuric acid were dropped onto the paint films for 30 minutes, at intervals of one minute, at 65 °C.

Assessment: Destruction of the film after **X** (0 to 30) minutes.

(ii) Scratch Resistance Test

Scratch resistance was determined in terms of residual gloss after wash scratching. Residual gloss was measured in percent (ratio of initial gloss of the clear coat surface to its gloss after wash scratching; gloss measurement in each case was performed at an angle of illumination of 20°). Wash-scratching was performed using an Amtec Kistler laboratory car wash system [c.f. Th. Klimmasch and Th. Engbert, Entwicklung einer einheitlichen Laborprüfmethode für die Beurteilung der Waschstraßenbeständigkeit von Automobil-Decklacken] according to development of a standard laboratory test

method for evaluation of resistance of automotive top coats to car wash systems.[1]

Acceptable Acid Resistance number was greater than 10. Acceptable Scratch Resistance number was greater than 60.

Example No.	Acid Resistance	Scratch Resistance (residual gloss, %)
1	13	70
5	22	68
6	22	70
11	14	80

4. As can be seen from the table acceptable acid and scratch resistance results were obtained for Examples 1, 5, 6, and 11, all where the hydroxy-C2-C4-alkyl (meth)acrylate component was changed either to hydroxyethylacrylate or hydroxypropylacrylate depending on what the original example used.

5. I conclude that the acceptable acid and scratch resistance demonstrated for Examples 1, 5, 6, and 11 occurs for coatings that use either hydroxyethylacrylate or hydroxypropylacrylate as the hydroxy-C2-C4-alkyl (meth)acrylate component.

6. I declare that all statements made herein are either based on my own knowledge and are true, or if based on information and belief are believed to be true. I also declare that all statements were made with knowledge that willful false statements, and the like, are punishable by either fine, or imprisonment, or both under Section 1001 of Title 18 of the United States Code, and any such willful false statements may jeopardize the validity of either the patent application, or any patent issuing thereon.

By: Carmen Flosbach

Carmen Flosbach, Ph.D.

Dated: July 28th 2006

[1] See DFO proceedings 32, pages 59 to 66, technology seminars, proceeding of the seminar on 29-30.4.97 in Cologne, published by Deutsche Forschungsgesellschaft für Oberflächenbenhandlung e.V., Aderstraße 94, 40215 Düsseldorf.